METEOROLOGICAL INSTRUMENTS

YOUNG

INSTRUCTIONS

WIND TRACKER

MODEL 06206

CE

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PN: 06206-90
REV: E072412

WARRANTY AND ASSISTANCE

This equipment is warranted by CAMPBELL SCIENTIFIC (CANADA) CORP. ("CSC") to be free from defects in materials and workmanship under normal use and service for **twelve (12) months** from date of shipment unless specified otherwise. ***** **Batteries are not warranted.** ***** CSC's obligation under this warranty is limited to repairing or replacing (at CSC's option) defective products. The customer shall assume all costs of removing, reinstalling, and shipping defective products to CSC. CSC will return such products by surface carrier prepaid. This warranty shall not apply to any CSC products which have been subjected to modification, misuse, neglect, accidents of nature, or shipping damage. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. CSC is not liable for special, indirect, incidental, or consequential damages.

Products may not be returned without prior authorization. To obtain a Return Merchandise Authorization (RMA), contact CAMPBELL SCIENTIFIC (CANADA) CORP., at (780) 454-2505. An RMA number will be issued in order to facilitate Repair Personnel in identifying an instrument upon arrival. Please write this number clearly on the outside of the shipping container. Include description of symptoms and all pertinent details.

CAMPBELL SCIENTIFIC (CANADA) CORP. does not accept collect calls.

Non-warranty products returned for repair should be accompanied by a purchase order to cover repair costs.

CAMPBELL SCIENTIFIC®

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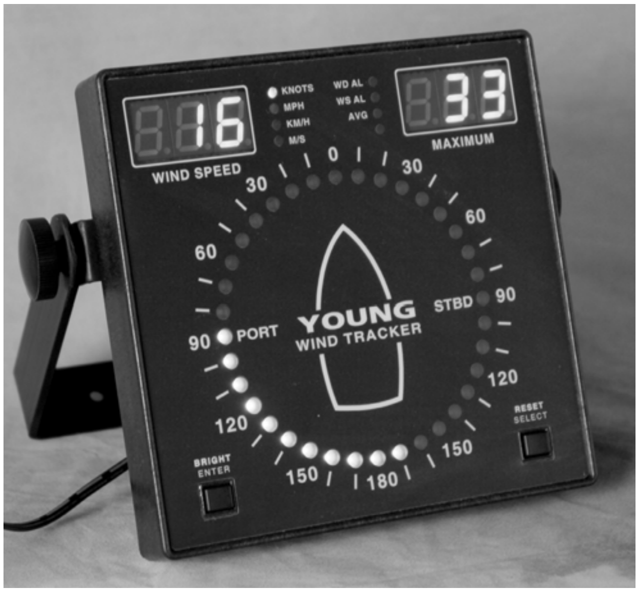
MODEL 06206
MARINE WIND TRACKER



INTRODUCTION

The YOUNG Model 06206 Marine Wind Tracker is a compact wind speed and direction display with advanced features relative wind angle and NMEA serial I/O making it suitable for shipboard use.

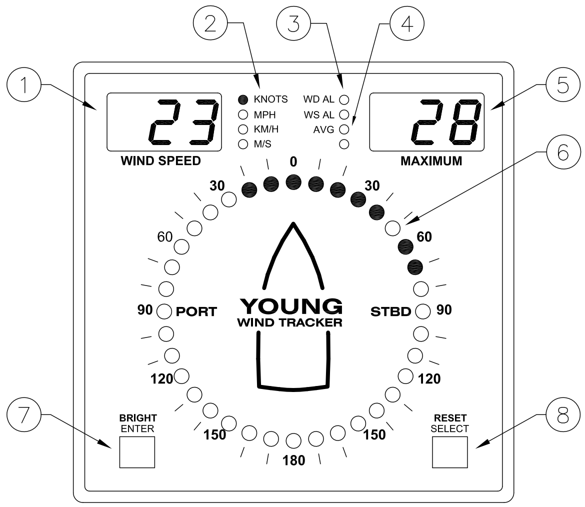
FEATURES

- 3-digit wind speed display
- 3-digit maximum wind speed or wind direction display
- Multi-color wind direction display with variability
- Wind speed and direction alarms with delay
- RS-485/NMEA serial connections
- Calibrated 0-5 VDC outputs
- Display brightness control
- Compatible with Young wind sensors & 4-20 mA inputs

PRECAUTIONS

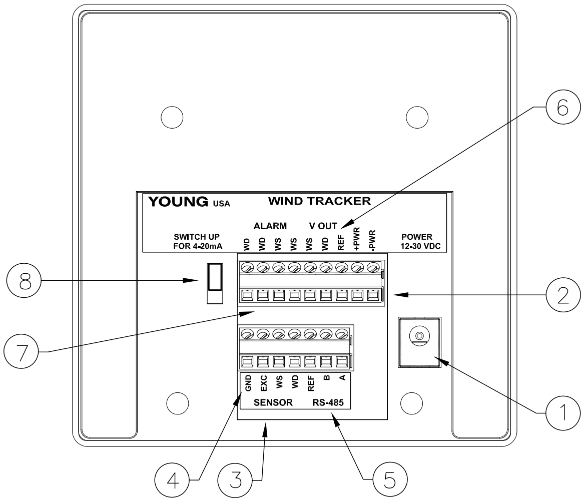
- INDOOR USE ONLY unless placed in approved enclosure
- Operating temperature range 0-50°C (32-122°F), 0-95% RH
- Use only recommended power sources. 12-30 VDC, 3.5 W
- Disconnect power when connecting or servicing
- Alarm contact rating 24 VAC/30 VDC 0.5 A maximum

FRONT PANEL



1. Wind speed display
2. Wind speed units indicator
3. Alarm status indicators
4. Data averaging indicator
5. Maximum wind speed or direction display
6. Wind direction and variability display
7. Brightness control (operate) or Enter key (setup)
8. Maximum Reset (operate) or Select (setup)

BACK PANEL



1. Power input coaxial jack (12-30 VDC)
2. Power input terminals (12-30 VDC)
3. Sensor or 4-20 mA inputs
4. Earth ground connection
5. RS-485 serial input/output
6. 0-5 VDC calibrated outputs
7. Alarm relay connections (Normally Open)
8. Input Selector Switch

MOUNTING AND START-UP

1. For best visibility, place the Wind Tracker in a location free of direct sunlight. Mount it using the attached bracket or remove bracket for flush mounting to a bulkhead or panel cutout. Panel cutout dimensions are given in the specifications. An optional rack mounting panel (Model 06280) and protective enclosure (Model 06260) are available from your YOUNG supplier.

2. Connect cables to terminals according to wiring diagram.

   IMPORTANT NOTE! Please observe correct position of back-panel Input Selector Switch according to wiring diagram.

3. Connect GND terminal to suitable earth ground.

4. Insert power supply plug into power jack, plug power supply into a suitable AC wall outlet or connect to suitable 12 to 30 VDC power source to terminals.

   IMPORTANT NOTE! Do not connect two different power sources to the Marine Wind Tracker at the same time.

5. The Wind Tracker will display firmware version number then begin to display wind information as follows:

   - Wind speed
   - Wind speed units
   - Maximum wind speed or direction degrees
   - Wind direction (single orange indicator)
   - Direction variability (green indicators)
   - Alarm status indicators (if selected)
   - Data averaging indicator (if selected)

6. Observe display to confirm proper operation.

CHANGING SETTINGS

Marine Wind Tracker parameters may be inspected or changed in SETUP mode. Press and hold both **ENTER** and **SELECT** keys for about 4 seconds. When SETUP mode is active, abbreviations identify each function and available options as listed below. The **SELECT** key changes options or values. The **ENTER** key saves and moves to the next parameter.

Appearance of options depends on parameter settings. Some options may be hidden.

DISPLAY		SETUP FUNCTION
		Input / Sensor Type
InP	**03**	Wind Sentry
	04	Wind Monitor-Jr
	05	Wind Monitor
	SEr	NMEA serial input
	Ld2	Line Driver 4-20mA input (0-100 m/s)
	Ldi	Line Driver 4-20mA input (0-50 m/s)
		Wind Speed Units (annunciator blinks)
SPd	**unt**	SELECT key changes units. ENTER to save
		NMEA Serial Output Rate
Out	**FSt**	16 times per second
	SLO	Once per second
		Display Averaging (annunciator blinks)
dSP	**no**	Instantaneous data displayed
	YES	Average data displayed
PEr	**030**	Set averaging period in seconds (0-999). Display will update at this interval.
		Right Display Window Selection
dSP	**SPd**	Maximum wind speed
	dir	Wind Direction degrees
		Wind Direction Alarm (annunciator blinks)
ALr	**no**	Direction alarm not armed
	YES	Direction alarm armed
ALr	**dir**	SELECT key sets direction alarm sector start. ENTER key saves.
ALr	**SPn**	SELECT key sets direction alarm sector span. ENTER key saves.
		Wind Speed Alarm (annunciator blinks)
ALr	**no**	Speed alarm not armed
	YES	Speed alarm armed
ALr	**000**	Alarm set-point. SELECT key increments value. ENTER key saves.
		Alarm Delay Time
dLY	**030**	Alarm delay time in seconds (0-999). SELECT key increments value. ENTER key saves.
		Sound
Snd	**no**	No sound
	YES	Audible beep with alarm activations or average update.
		Wind Direction Voltage Output Scale
dir	**360**	0-360 degrees
	540	0-540 degrees
		Test Functions
tSt	**no**	No test
	YES	Test
tSt	**ALr**	SELECT key closes alarm relays.
CAL	**0.00**	SELECT key alternates between 0.00 and 5.00 VDC output to calibrate external devices.
tSt	**dsP**	SELECT key tests display sections.

OPERATION

ALARMS

Wind speed and direction alarms each have their own set-point, LED status indicator, and relay contacts. An Alarm Delay parameter establishes the time duration in or out of the set-point range needed for the alarm to change state. During operation, front panel LEDs indicate alarm status.

LED Off = Alarm not armed and OFF. Relay open
LED Steady = Alarm armed and OFF. Relay open
LED Blinking = Alarm ON. Relay closed. Audible beep if Sound parameter has been set.

AVERAGING
When averaging is enabled, the front-panel AVG annunciator is illuminated, and average wind speed and direction values are displayed at intervals set by the Period (PEr) parameter. When disabled, instantaneous wind values are displayed.

BRIGHTNESS
Adjust display brightness by pressing and holding the left BRIGHT key.

MAXIMUM or WIND DIRECTION DISPLAY
MAXIMUM WIND SPEED GUST or numerical WIND DIRECTION appears during operation depending on Right Display Window (dSP) parameter setting. Maximum gust may be reset during normal operation by pressing and holding the RESET key for 1 second.

REMOTE DISPLAYS
The Marine Wind Tracker may be configured as a remote display by setting the Sensor Input for serial input (InP=SEr) and connecting the RS-485 terminals to a source providing a $WIMWV NMEA wind speed and direction string. This may be any valid NMEA source including another Wind Tracker operating as a master, a Young wind sensor or interface sending the NMEA string, or a shipboard system.

With a Marine Wind Tracker as the NMEA source, use these settings:
MASTER: Sensor InP = any non-serial device.
REMOTE: Sensor InP = SEr

Connect one master with up to 16 remote displays via RS-485 terminals as shown in wiring diagrams. Remote Marine Wind Trackers display exactly the same information as the master including alarm states. MAX RESET and all display features are controlled by the master unit only. Brightness can be adjusted independently at each Marine Wind Tracker display.

VOLTAGE OUTPUTS
Calibrated voltage outputs for wind speed and direction are updated 16 times per second. Wind Speed 0-100 m/s = 0.00 to 5.00 VDC. Wind Direction may be scaled for either 0-360 or 0-540 degrees = 0.00 to 5.00 VDC by setting the Direction (dir) parameter.

4-20 mA INPUTS
The Wind Tracker accepts 4-20 mA Line Driver inputs with either 0-50 m/s or 0-100 m/s scaling (Ldi and Ld2 input settings). Connect as shown in wiring diagram. The back-panel switch labeled 4-20 mA must be in the UP position. 24VDC power is recommended for most 4-20 mA installations.

POWER CONNECTIONS
The Marine Wind Tracker operates from 12 to 30 VDC. Power may be connected via the coaxial jack or terminals. See wiring diagrams for examples.

ERROR MESSAGES

LDi	**Err**	4-20 mA (line driver) signal is missing or outside acceptable range. Verify connections, signal, and 4-20 mA switch in UP position,.
SEr	**Err**	Unit set to receive RS-485 serial signal (inP SEr), but no serial data detected. Verify NMEA source is working. Verify connections.

WARRANTY

The Marine Wind Tracker is warranted to be free of defects in materials and construction for a period of 12 months from date of purchase. Coverage is limited to repair or replacement of defective unit.

SPECIFICATIONS

Size:	144 mm (5.65 in) x 144 mm (5.65 in) x 36 mm (1.4 in)
Panel Cutout:	138 mm (5.43 in) x 138 mm (5.43 in)
Sensors:	Wind Monitor-MA (05), Wind Monitor (05), Wind Monitor-SE (SEr), Ultrasonic Anemometer (SEr), Wind Monitor-JR (04), Wind Sentry (03)
Accuracy:	±0.6% Full Scale
NMEA Serial Input & Output:	$WIMWV, ddd, R, sss, u, A*c<cr><lf> ddd wind direction in degrees sss wind speed (ss.s for m/s) u units (N knots, K km/hr, M m/s, S statute mph) c NMEA checksum
Other inputs	4-20 mA (0-360 deg, Ldi 0-50 m/s, Ld2 0-100 m/s)
Other outputs:	0-5 VDC = 0-360° or 0-540° 0-5 VDC = 0-100 m/s
Alarm Relays:	Normally Open contacts for WS and WD Contact rating 24 VAC or 30 VDC maximum 5A resistive, 2A inductive maximum
Input Power:	12-30 VDC, 3.5 W
Weight:	1.0 lb (0.45 kg) without AC adapter

CE COMPLIANCE

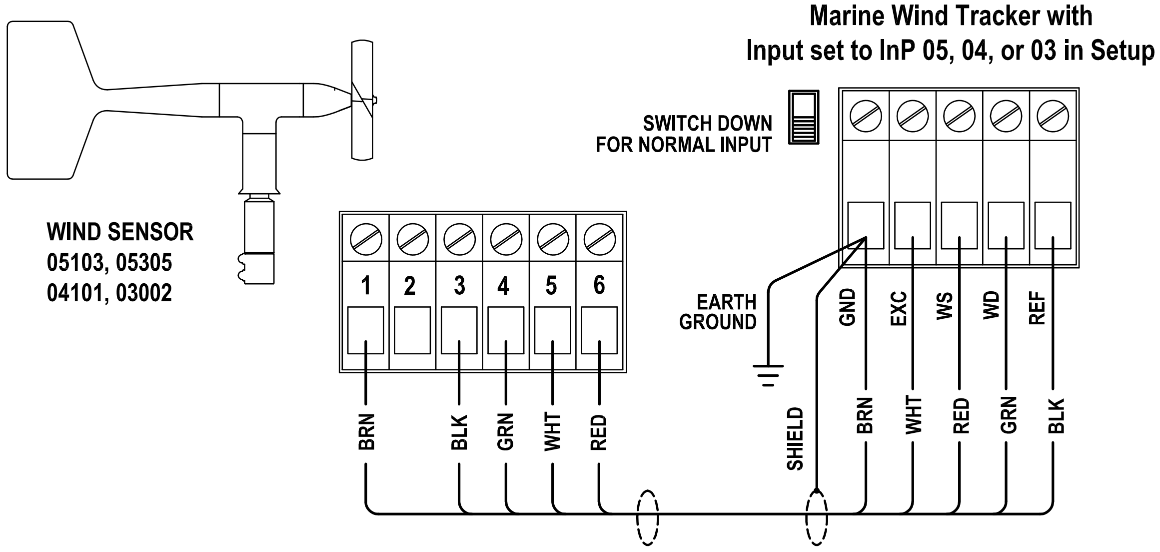
This product complies with European CE EMC Directive. Shielded cable must be used.

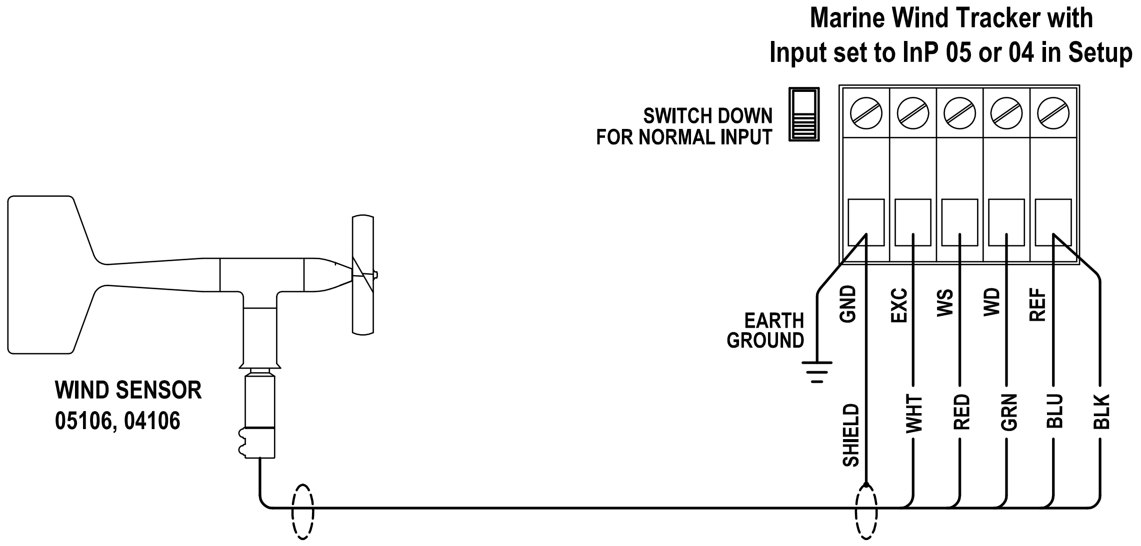
Declaration of Conformity

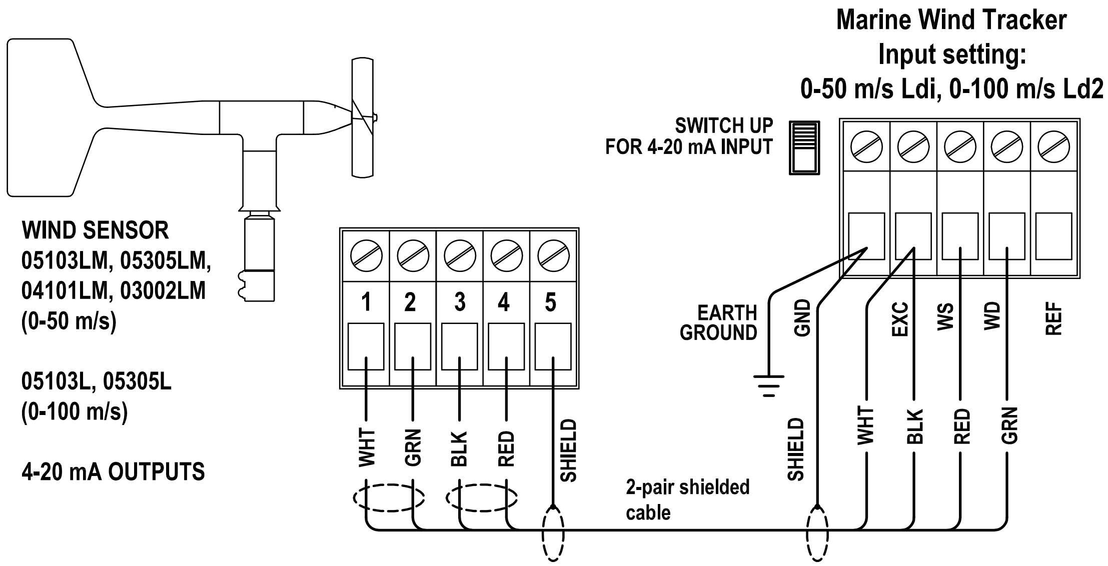
R. M. Young Company
2801 Aero Park Drive
Traverse City, MI 49686 USA

Model 06206 WIND TRACKER conforms to the provisions of Council Directive 2004/108/EC (December 15, 2004) on Electromagnetic Compatibility

WIRING DIAGRAMS







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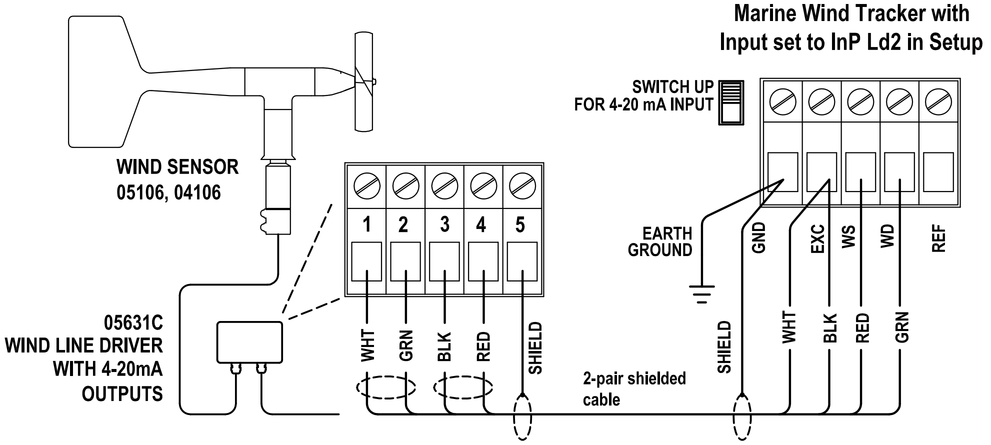
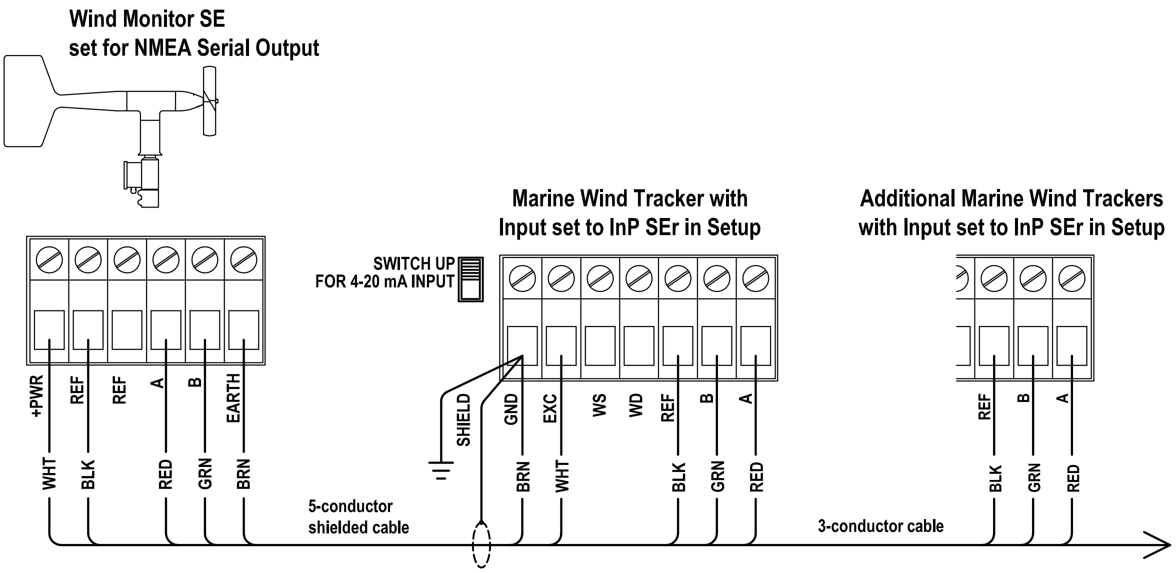
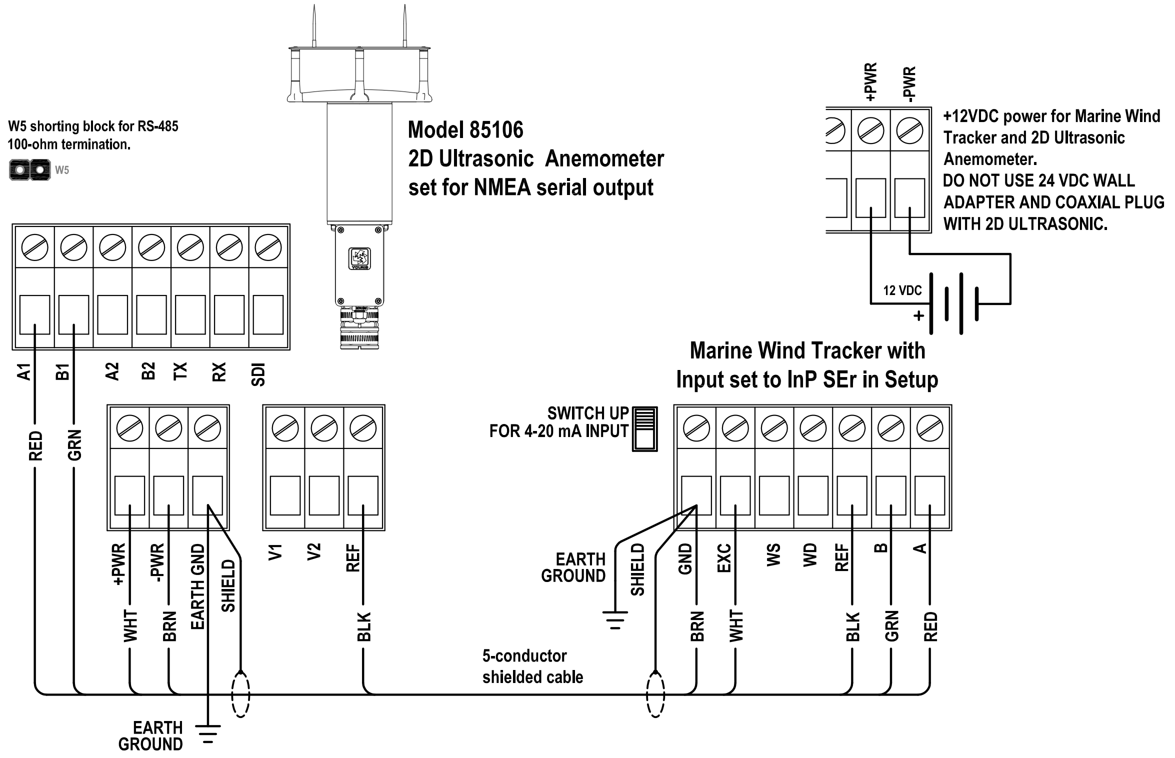






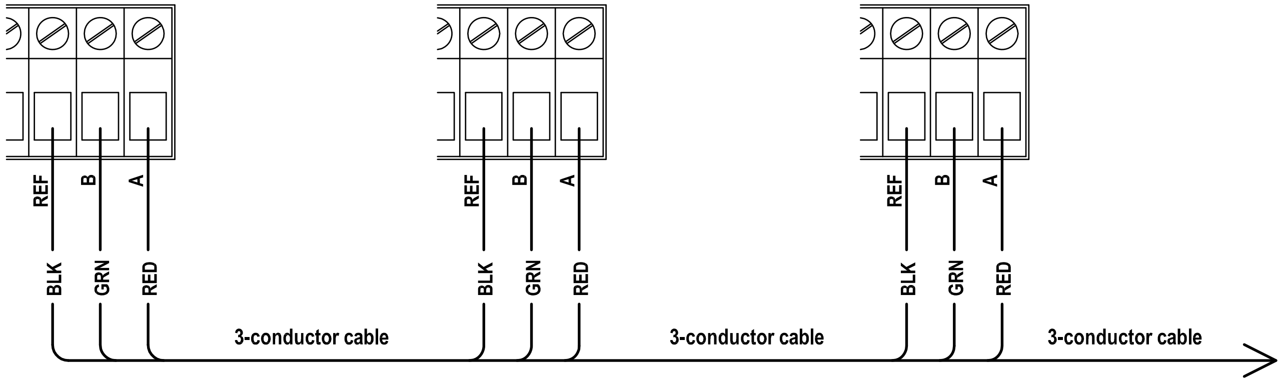
WIRING DIAGRAMS

Master-Remote Display Example

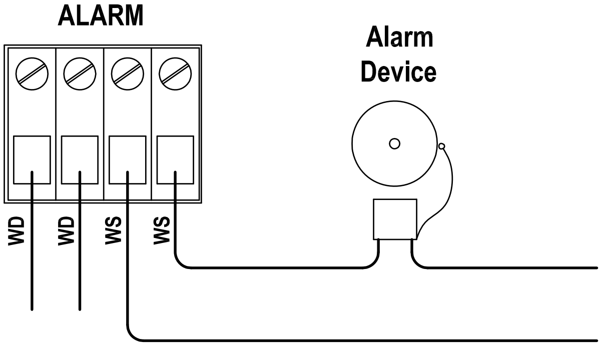
Master Marine Wind Tracker

Remote Marine Wind Tracker with Input set to InP SEr in Setup

Remote Marine Wind Tracker with Input set to InP SEr in Setup

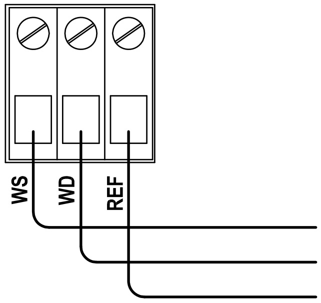


ALARM

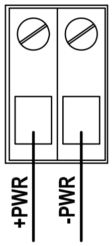


User-supplied power for Alarm Circuit.
Alarm contacts 24 VAC or 30 VDC maximum
5 A resistive or 2 A inductive maximum

V OUT



Wind Speed Vout, 0.00 to 5.00 VDC = 0 to 100 m/s
Wind Direction Vout, 0.00 to 5.00 VDC = 0 to 360 or 540 degrees
Vout Reference



12 to 30 VDC, 3.5 watts max
Power terminals are electrically parallel with coaxial power jack. Either may be used to supply power to Wind Tracker.

DO NOT CONNECT MULTIPLE POWER SOURCES AT THE SAME TIME.